

Appln. No. 09/749,210
Amdt. dated: October 31, 2003
Reply to Office Action dated August 1, 2003

REMARKS

These remarks are set forth in response to the office action mailed August 1, 2003, (the "Office Action"). As this Amendment has been timely filed within the three-month statutory period, neither an extension of time nor a fee is required. Presently, claims 1-20 are pending in the Patent Application. In the Office Action, however, claims 1-19 have been rejected under 35 U.S.C. §103(a). The objections and rejections are set out in more detail below.

Claims 1, 4, 7, 10, 13, 17-19 have been amended for greater clarity and to more precisely recite that which the Applicant regards as the invention. Claim 3 has now been canceled.

Prior to addressing the rejections on the art, a brief description of the present invention is appropriate. The present invention relates to a system for monitoring and controlling the status of a communication link between a mobile transceiver unit and a repeater station in a cellular communications network. More particularly, the system provides a method and apparatus by which information concerning individual mobile station power levels as received at the repeater can be effectively communicated to a remote location such as a base transceiver system. This information is important for a variety of reasons. The information can be used to remotely command the mobile transceiver unit to advantageously adjust the mobile unit's transmit power level for optimal communications with the repeater. Advantageously, the information can be communicated to the base transceiver station using the same backhaul RF channel, without modifying the content of the received signal from the mobile unit, and without increasing the overall bandwidth of the backhaul signal. Instead, the received power level is communicated by using a simple coding scheme. The coding scheme communicates information concerning the power level of signals received at the repeater by varying a power level of a backhaul link in a series of discrete predetermined steps.

I. Claim Rejections on Art

Claims 1-19 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent number 6,469,984 to Baker ("Baker") in view of U.S. Patent number 6,590,881 to Wallace, et al., ("Wallace"). Baker concerns a system for measuring the composite uplink power from a plurality of mobile transceiver units served by the CDMA repeater. This information can

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be used to calculate the number of mobile units served by the repeater. According to Baker, this calculation can be made and stored at the repeater or transmitted back to a central office by means of a suitable communications link.

The foregoing information is useful for the central office because a conventional CDMA does not typically have specific information about the number of signals it is repeating. Furthermore, the BTS that is served by the repeater cannot distinguish which active calls it is communicating with directly versus which calls are being rebroadcast by the repeater since all of the calls are spectrally coincident (same frequency). Ultimately, the determination of the number of users is useful to a service operator. It enables the operator to determine when a repeater is receiving so much traffic that it should be replaced with a standard base transceiver system. This allows the service operator to improve customer service by providing more available channels for users to access the network.

Baker uses a power detector and an A/D converter to obtain a digital measurement from the power detector. There is nothing novel in using a system like this and it is commonly used in a broad range of RF communication and measurement gear. A simple example is a spectrum analyzer. The novel aspect of Baker is that it discloses an equation that can be to determine the number of uplink CDMA mobiles present. Significantly, however, Baker does not disclose Applicant's discrete power level coding system that permits a repeater to communicate information regarding the conditions of an RF link between a mobile unit and a repeater.

U.S. Patent No. 6,590,881 to Wallace does not make up for the deficiencies of Baker. Instead, Wallace recognizes that perfect synchronization of a CDMA network may not be possible by exclusively using GPS. For example, tunnels can prevent transmission of GPS signals. Other geographical areas may be denied GPS because of political upheaval, a discontinuation of GPS service, and so on. In any case, Wallace provides various method by which synchronization can be achieved, none of which include Applicant's discrete power level coding system that permits a repeater to communicate information regarding the conditions of an RF link between a mobile unit and a repeater.

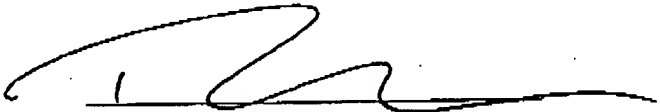
II. Conclusion

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Applicant has made every effort to present claims which distinguish over the prior art, and it is believed that all claims are in condition for allowance. Nevertheless, Applicant invites the Examiner to call the undersigned if it is believed that a telephonic interview would expedite the prosecution of the application to an allowance. In view of the foregoing remarks, Applicant respectfully requests reconsideration and prompt allowance of the pending claims.

Respectfully submitted,

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